Lap Joint Flange

Lap joint flanges are also known as Backup flanges, Loose Ring flanges, Loose Hubbed flanges, and Van Stone flanges.

Choosing the right flanges for your industrial application is crucial. It entirely depends on the requirement of the intended application.

Lap joint flanges are suitable for piping systems, allowing easy disassembly, while rolled angle rings are suitable for structural applications to create curved or rounded shapes within various structures.

Examine your project requirements and prepare a list. If you need a fitting that can be effortlessly assembled, disassembled, or made from different materials, then a lap joint flange is an ideal choice.

Are you looking for something more rigid and challenging to disassemble? A rolled-angle ring is the best choice for you.

The hubs are typically taller than a slip on style and can be modified per your requirements. Slip ons in higher pressure classes are often made with the height of a lap joint for a better connection.

If the hub height is not a concern and a lap joint is not readily available, customers will sometimes opt for a slip on made to a lap joint style with a machined hub.

Often times, a stub end will be made of a special material grade (nickel alloy), with the lap joint consisting of basic carbon or commodity stainless, in order to reduce the overall cost of the connection.

Naturally, we recommend that both items are of the same grade for the purposes of uniformity, but your application will determine what's best and/or necessary.

Lap Joint Flanges and Rolled Angle Rings

Various industries, including piping and structural applications, use industrial flanges. Lap Joint Flanges and Rolled Angle Rings are two components that play crucial roles in numerous operations.

The primary difference between lap joint flanges and rolled angle rings is that rolled angle rings are only available in a butt-weld configuration.

On the other hand, lap joint flanges come in both butt-weld and slip-on variations. In contrast to the backing flange on a rolled angle ring, the backing flange on a lap joint flange is free to rotate.

Lap Joint Flanges

1) Lap joint flanges are a two-piece design with a backing flange and a rolled angle ring.

2) It is available in butt-weld and slip-on configurations.

3) Different materials are used for the backing flange and the rolled angle ring.

4) The backing flange allows for easier alignment because it is free to rotate.

Rolled Angle Rings

1) Rolled angle rings is a two-piece design with a rolled angle ring and a backing flange

2) It is available in butt-weld configuration.

3) Just like Lap joint flanges, different materials are used for the rolled angle ring and the backing flange

4) The backing flange is not free-to-rotate in roll angle rings compared to lap joint flanges.

Which Type of Fitting is Right for you?

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Examine your project requirements and prepare a list. If you need a fitting that can be effortlessly assembled, disassembled, or made from different materials; then a lap joint flange is an ideal choice.

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What is a lap joint flange?

A lap joint flange is a type of flange that consists of two parts: a stub end (welded to the pipe) and a loose flange (which slips over the stub end).

This design allows for easy alignment and disassembly without welding to the pipe itself. The loose flange can rotate, enabling the connection to be aligned with bolt holes even if the pipe's alignment is slightly off.

What are the advantages of lap joint flanges?

Lap joint flanges are more affordable than many other types of flanges because they require less labor (no welding to the pipe) and can be manufactured with fewer materials.

Because the loose flange can rotate, it can be adjusted to fit any misalignment of bolt holes or slight positioning differences between pipe ends, making installation easier.

When should I use a lap joint flange?

When minimizing costs is a priority, lap joint flanges offer a less expensive alternative to more complex flange types, particularly when welding to the pipe is not necessary.

If the system requires regular maintenance, inspection, or part replacement, lap joint flanges make it easier to disassemble and reassemble without special tools or welding.

When should I not use a lap joint flange?

Lap joint flanges are not recommended for high-pressure applications because the design does not provide the same strength or seal integrity as other flanges, such as welded or slip-on flanges, in high-pressure environments.

In applications where there is severe vibration or significant movement (such as in machinery or dynamic systems), lap joint flanges may not provide the necessary seal integrity or stability, as the loose flange may shift or loosen under intense vibration.

How do I install a lap joint flange?

Weld the stub end (a part of the lap joint flange) securely onto the pipe using the appropriate welding method. Slip the loose flange over the stub end. The loose flange can rotate, allowing you to align it with the bolt holes on the other side of the pipe or flange.

Position the flange so that it fits over the stub end with the bolt holes properly aligned with the corresponding holes on the other flange.

Insert the bolts through the aligned holes of both flanges and tighten them evenly using the specified torque, ensuring a secure connection.